Q&A from 2011 Future Projections conference calls: 5/8/2013 and 5/9/2013

This document contains Q&A on future year projections of EPA's 2011 modeling platform. There is a separate Q&A document for base year questions. Click to follow the links in the soft copy.

Q1: Where is the website for the 2011 emissions modeling platform data?

Modeling data and outreach info: http://www.epa.gov/ttn/chief/emch/index.html

Draft Version 1 mobile sources and fires: ftp://ftp.epa.gov/EmisInventory/2011nei/2011nei_draft/

The Emission Inventory System (EIS) can also be used to run reports on the 2011 NEI Draft and the 2011 NEI v1 when it's available. See the EIS Gateway site at http://www.epa.gov/ttn/chief/eis/gateway/index.html.

Q2: It will be difficult to get data together by the end of May. What sectors should we target?

While data provided sooner is much more likely to be included in our modeling projections, data can be provided after the end of May. We will incorporate new data in runs that follow its receipt and processing. States should focus on sectors with the largest changes between the base and future years that EPA is least likely to know about, and sources near/in nonattainment areas. EPA will perform data searches and collection on the future years as is normally done when projecting to a future year. States can send comments and information as available and do not need to send them in a single email or package.

Q3: If data are not provided by 5/31, what is a secondary deadline?

June 30. As discussed above, data can be provided after this time, but the sooner data are provided the more likely EPA can include it in its first round of modeling.

Q4: Can EPA make a priority list of targeted source categories or provide other information to focus the effort due to the short timeframe?

States should focus on the sources that are the most important to their region and to their air quality issues, including those in nonattainment areas and large sources that may contribute to transport. States should focus on communicating information that EPA may not be likely to know about or incorporate into modeling if the information was not provided. When prioritizing source categories in your area, note that information on settlements, individual large units/facilities are often key to future year design values. EPA will post some emission summaries for point and nonpoint sources to help with the understanding of the larger source categories by May 20. Onroad and nonroad summaries by state are already posted with the 2011 NEI draft data (see question Q1:above).

Q5: Can EPA provide information back to the states about what updates were made or not made as a result of this effort?

Yes. At a minimum, information for the base year will be included in the NEI documentation. Additional information will be provided in the modeling platform documentation. We may also develop a summary table once the effort is complete that could be posted prior to the more complete NEI and platform documents.

Q6: Can collaborators outside EPA review the projections data template and provide comments?

Yes, please forward comments on the templates. If needed, a new version of the templates will be posted if we believe that the suggestions will have general applicability. If you would like to add columns with additional data to the templates that you provide us, that is also fine to do.

Q7: Can EPA provide a draft schedule for upcoming rules?

We are working on this, but there are many decisions that need to be made before a schedule can be confirmed and released.

Q8: Who can states new to the modeling process call for help getting started?

Contact Alison Eyth or Rich Mason. Please refer to the EPA Staff Directory for contact information.

Q9: What future years might be considered?

The years to be used for upcoming model runs are not yet known, but EPA has been modeling years from 2018 out to 2030 for recent efforts.

Q10: If we know of stack parameters that will fall outside EPA's QA criteria, how can we make sure that EPA will not change those parameters? For example, VA has some large non-EGUs with temperatures outside EPA's QA criteria.

The stack parameters currently stored in EIS are can be viewed in EIS and are included in the 2011 point source ID reference sheet posted on CHIEF Emissions modeling pages (2011_point_source_ID_reference.xlsx). The stack parameter data in EIS are included in this sheet and in the modeling platform inputs. EIS has a maximum temperature of 9999 degrees Fahrenheit. If your temperature is higher than that, please email Sally Dombrowski and we can pursue changing the EIS valid temperature range. If desired stack parameters fall outside of the EIS range checks, those comments can be provided to Rich Mason and Alison Eyth as part of this review by adding some information to the provided template. Please refer to the EPA Staff Directory for contact information.

Note that SMOKE also includes stack parameter range checks, so outlying parameters may also be substituted by SMOKE. The SMOKE v3.1 manual can be found here: http://www.smoke-model.org/version3.1/html/. If your stack parameters fall outside of the SMOKE range check, please also let Rich Mason and Alison Eyth know. Currently, the valid ranges allowed in SMOKE are:

- Height: 0.5 to 2100 meters (1.6 to 6890 ft)
- Diameter: 0.01 to 100 meters (0.03 to 328 ft)
- Exit temperature: 260 to 2000 K (8.3 to 3140 degrees F)
- Exit velocity: 0.0001 to 500 m/s (0.00033 to 1640 ft/s)

Q11: If we know of past problems with EPA matching base year EGUs with future-year EGUs, how can we get those resolved? In some cases, EPA has assigned the wrong ORIS IDs to the wrong units in past modeling platforms, causing double counted emissions in the future years.

EPA wants to know about these facilities/units. Please provide EPA with a list of EIS facility IS and EIS unit IDs and the associated correct ORIS facility and ORIS unit IDs. EPA can then enter the ORIS IDs into EIS and the modeling files. Let Ron Ryan, Rich Mason, and Alison Eyth know of these issues. Please refer to the EPA Staff Directory for contact information.

Q12: Can EPA make use of information on planned shutdowns contained in EIS?

EPA will use this information if it is already submitted to EIS, but we don't know how many states have done this, or how comprehensive this information is. If it is not already included in EIS, states are not currently able to change this in EIS (the EIS facility inventory will be opened later this year for 2012 NEI submissions, but not in time for this effort). Therefore, states can provide a list of units with known or planned closures and the closure date. To provide this list, states should use the Excel template worksheet called "Point" and make sure to use facility IDs, unit IDs, and process IDs that will match IDs used in the 2011 NEI.

To indicate closures, the "control factor" column should be 100% and the "Implementation date" should be the closure date. If the entire facility is closed, then just the facility ID can be provided. If specific units or processes are closed, then the relevant IDs need to be provided.

EPA will load the closure information to EIS separately so that states do not need to again provide closure information. Once the EIS window is again open for facility updates, states can submit closure information through EIS.

Q13: Is IPM going to be used? Some EGU facilities are making big changes for BART. Will the model plant approach in IPM represent western EGUs on a plant-by-plant basis that includes BART?

IPM will be used to model future year EGU emissions. To help ensure accuracy in IPM, states can review the NEEDS spreadsheet posted at http://www.epa.gov/ttn/chief/emch/index.html#2011, while keeping BART and other programs in mind, to determine whether the control devices and effective dates are accurate and included. Comments on NEEDS are to be provided to Jeremy Mark. Please refer to the EPA Staff Directory for contact information.

Q14: Can EPA provide guidelines on what they would accept versus what won't be accepted for folding into NEEDS? There are concerns about small changes in IPM inputs that could result in larger differences than states would expect.

EPA would like to know about anticipated changes if they are known. NEEDS is an important input to IPM, but does not reflect the emissions output from IPM. This is an opportunity for states to comment on this important input to IPM.

Q15: Will a list of the specific comments on NEEDS be compiled so submitters can understand what was accepted or rejected?

EPA will consider the best way to incorporate comments into NEEDS. EPA will release and document the updated NEEDS.

Q16: What happens if a state does not submit comments on NEEDS?

The NEEDS database has already been updated based on publicly available information and comments previously provided to EPA, so those updates will be included regardless of what states provide. Also, for any rulemaking effort, there will be a notice and comment period between the proposed and final rules during which time states and others can comment on the data and methods used.

Q17: Could a state designate the unit availability file (UAF) that was recently provided as their comment on NEEDS? This will save time if it could be used?

We are planning to review the files provided by ERTAC as an input to our process as well. We will have to interpret the ERTAC files, but we will ask questions as needed. There could be some unit mapping issues from ERTAC to NEEDS that will also need to be resolved. Note that there are some data fields included in the NEEDS spreadsheet that are not in the ERTAC files that may be important for states to review.

Q18: What is the size threshold for NEEDS units that EPA is interested in?

NEEDS reflects all known generators serving load to the electricity grid. Agencies can prioritize which units to review by considering the relative importance of the units to their particular area and according to the issues in that area.

Q19: Can there be a follow-up discussion of translating IPM outputs to modeling files?

EPA would like to have such a discussion. There are some other areas to follow up on as well. We will discuss this internally and then decide a mechanism for this.

Q20: Can EPA specify the year of EIA data that is reflected in the posted NEEDS Database?

The NEEDS database pulls information from several data sources, and sometimes multiple sources feed into the same data field. In general, the best available and most up to date information is used, but not all data fields are populated by data describing the same year. Information on existing units, committed units scheduled to come online in 2015 or earlier, existing unit controls, and SO2 control efficiency removal comes from the data reported on EIA form 860 for 2010. Information on NOx rates and existing unit controls comes from 2011 data from the Emissions Tracking System (ETS). Information on unit heat rates comes from 2012 AEO and is supplemented by data from EIA's form 923 for cogen unit heat rates.

Q21: What is the most important data for states to provide for mobile sources?

It is important to note that EPA uses historical (base) year information to inform future years. This means having good base year information is critical to creation of credible future year inventories. It will be important to get good estimates for things like age distributions, VMT distributions and other factors for the base year. Any changes to I/M programs, other types of control programs, or any local programs related to fuels would also be important.

Q22: Do mobile source inputs need to be provided by May 31?

May 31 is a target date for providing input data. Data provided after that date will also be accepted and folded in to subsequent versions of the NEI and the modeling platform. See also Questions Q2: and Q3:.

Q23: Is EPA using the state-supplied vehicle population data to do projection growth?

EPA is planning to use onroad and nonroad vehicle population data that was submitted via the 2011 NEI process for the base year. Note that submitted data are subject to quality assurance checks, so data that does not pass these checks will not be used. Base year population data will inform future year vehicle populations.

Q24: Does EPA want VMT and/or vehicle population and what format is helpful?

VMT is an important input to the process. VMT for the base year was to be provided in the MOVES county databases as part of the NEI process. Temporal allocation of VMT is considered for use if it is provided in the MOVES county databases. For future year VMT and vehicle population data, an example of an acceptable format is the SMOKE FF10 activity format that is available in the inputs directory on the FTP site: ftp://ftp.epa.gov/EmisInventory/2011nei/2011nei_draft/onroad/inputs/. States may also provide VMT, vehicle population and other supporting information for future years in MOVES county databases. States can decide which

Q25: Is EPA collecting VMT projection data for states? Will new/refined default activity databases and fuels databases be released? What about vehicle populations from more current databases than the 1990s and also VMT mix?

The MOVES county databases and the Nonroad NMIM County Databases (NCDs) used the for 2011 NEI draft are available on the FTP site under the respective inputs directories (see link provided). We can accept VMT or vehicle population data for future years in the SMOKE FF10 activity data format. An example of this format is posted here: ftp://ftp.epa.gov/EmisInventory/2011nei/2011nei_draft/onroad/inputs/. For most inventory modeling, OTAQ does not use the default MOVES VMT estimates. For historical VMT, OTAQ uses estimates from FHWA's Highway Performance Monitoring System (HPMS). For future VMT projections, OTAQ uses the Department of Energy's "Annual Energy Outlook" (AEO), but we would welcome state projection if available. State-supplied VMT projections will assist OTAQ in allocating national VMT growth to states and counties. For the NEI, states may specify their own VMT in county databases for all years. All the activity projections that OTAQ uses in its rulemaking is included in the documentation for the rule.

Q26: Will data provided for 2011 NEI will become default data in MOVES 2013?

Yes, we will update the 2013 default MOVES database to include any new information provided by states as part of the 2011 NEI submissions. However, see Question 25 about how VMT is estimated. Most specific county-level information is found in the state-supplied county databases, not in the MOVES default database.

Q27: NONROAD model growth rates are pretty stale. Will pre-economic recession assumptions continue?

It is a challenge to gather this information. EPA has been gathering data on nonroad populations for an upcoming version of the NONROAD model, but is not known at this time when an updated version may be released. Note that county-specific NONROAD inputs for the base year, including population and growth files at the state and county level may be submitted via the NEI process in NMIM county database format. State-supplied population files can include both historical and projection years. NONROAD inputs for future years can be provided via the modeling platform projection process by coordinating with Rich Mason or Alison Eyth to exchange the data via FTP or another method.

Q28: Is there a plan to integrate NONROAD activity data updates into the 2011 NEI and/or future projections?

State-supplied NONROAD activity and population data collected via EIS as part of the NEI process will be incorporated into EPA's inventory efforts, including the 2011 NEI (after version 1) and projection-year inventories. As part of the NEI process via EIS, base year state/county-specific population and growth data can be submitted by county for use in NMIM. These data affect future populations and inventories. Future year activity and populations can be provided by coordinating with Rich Mason or Alison Eyth.

Q29: Are updates to engines resulting from national rules included in Nonroad?

Yes, the impacts of nonroad rules on emissions are included in the NONROAD model.

Q30: How can we make sure that nonroad engines related to oil and gas are properly characterized? This includes avoiding double-counts in nonpoint sources vs. nonroad engines. Note that in rural counties, there are very different onroad emissions in areas where there is oil and gas production.

The nonpoint oil and gas inventory tool has definitions of nonroad engines vs. oil and gas tool sources. EPA is still working on gathering additional information to include in this response.

Q31: How are fracking operations being accounted for in areas in which this is new?

Where states have submitted for the 2011 NEI their point and nonpoint emissions that include emissions from fracking operations, these emissions will be included in the 2011 base modeling platform. For states not submitting emissions we will use data output from the latest version of the oil and gas tool. This latest version will be one iteration newer than the currently available public version, and it will include updates to the tool based on comments. One of the ongoing updates to the tool includes making it easier to define emissions associated with fracking.

For the future years, EPA would like any information that states have about appropriate growth rates for the oil & gas exploration sector. EPA is considering various approaches to growth in this sector, but the lack of detailed information is currently the most limiting factor.

Q32: How can we properly spatially allocate oil and gas support equipment that moves between counties?

Some types of nonroad engines are moved around as needed, so there are spatial allocation issues and issues apportioning between nonroad and other inventories. Research needs to be done to determine the best ways to spatially allocate these emissions based on the activity in each region. States can provide comments on any information that EPA could use to better allocate these sources in base and future years.

Q33: How can we more accurately project oil and gas besides flat-lining growth? For example, EIA shows that activity doubled in Marcellus Shale area between 2011-2012.

We are aware that there is substantial growth in the Marcellus region and in other parts of the country. The oil and gas national workgroup is aware of this problem. This growth needs to be quantified in comparison to the base year. EPA will continue to coordinate with the oil and gas national workgroup, and states are encouraged to provide any available information on expected growth in the oil and gas production sector for their state.

Q34: What about emissions data and projections Canada, Mexico, offshore oil and gas production, and shipping?

We are using 2006 inventory data from Canada for all years right now. We are awaiting new data from them for 2010 and some future years but are unsure of the timing. We are using the projections of the 1999 inventory for Mexico to 2012, 2018, and 2030. We do not have data on offshore oil and gas emissions in future years, and so we hold these emissions constant from base to future years. EPA is interested in receiving any additional information that could enhance the inventories available for these emissions sources in the base and future years.

Q35: How is EPA going to treat fires in the future are we treating these any differently than before? Note that standards are constructed using 99% percentile impacts

EPA expects to use some form of average fires for regulatory cases, which allows some background of fires in the system. We can have a separate working group discussion on this.